

3.5 odd answers

1. horizontal, right

3. vertical, up

5. False

7. a) reflection across x-axis b) vertical shrink by factor of $1/2$ c) vertical shift up 5

9. a) horizontal shift left 5, vertical shift down 1 b) horizontal shrink by a factor of $1/2$ c) vertical shrink by a factor of $1/3$, horizontal shift right 1

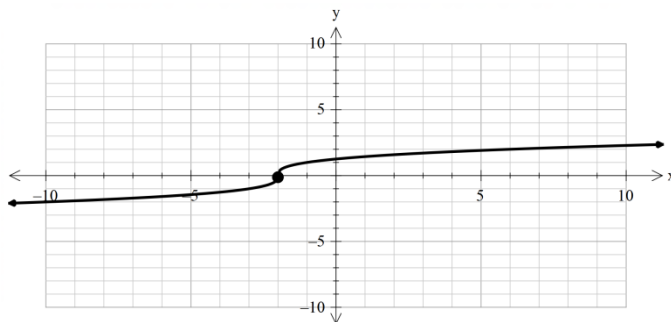
11. parent function: $y = \sqrt[3]{x}$, transformation: horizontal shift left 2

Parent table for $y = \sqrt[3]{x}$:

x	y
-1	-1
0	0
1	1
8	2

table for $f(x) = \sqrt[3]{x+2}$:

x-2	y
-3	-1
-2	0
-1	1
6	2



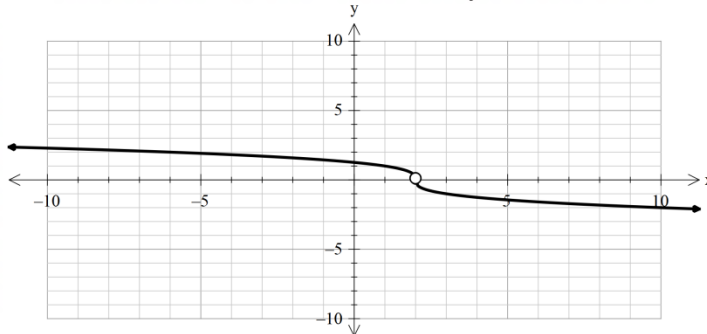
13. parent function: $y = \sqrt[3]{x}$, transformations: reflection across x-axis, horizontal shift right 2

Parent table for $y = \sqrt[3]{x}$:

x	y
-1	-1
0	0
1	1
8	2

table for $f(x) = -\sqrt[3]{x-2}$:

x+2	-y
1	1
2	0
3	-1
10	-2



15. a) $-f(x) = -x^3 + 2x^2 + 3x - 5$ b) $f(-x) = -x^3 - 2x^2 + 3x + 5$

17. a) $-f(x) = -\sqrt[3]{27x}$ b) $f(-x) = \sqrt[3]{-27x}$

19. $y = x^3$, reflection across the x-axis, horizontal shift right 4, vertical shift down 2

21. $y = x^2$, reflection across the x-axis, vertical stretch by a factor of 2, right 1, up 5

23. $f(x) = 2\sqrt[3]{x+3}$

25. $(x-7) + \frac{5}{x+5}$